

REMARKS

Upon entry of the present amendment, claims 3, 18, 19, 21, 22, 25, 26, 28, and 42-56 will be pending in the application.

Claim 3 has been amended to correct a minor grammatical error.

Claims 54-56 have been added to more specifically define the claimed invention.

Claim 54 recites that “the at least one binder (a11), the at least one water-soluble or water-dispersible binder (a21), and the at least one water-soluble or water-dispersible binder (b1) are the same.” Support is found at least on p. 83, ll. 9-13.

Claim 55 recites that “the at least one binder (a11), the at least one water-soluble or water-dispersible binder (a21), and the at least one water-soluble or water-dispersible binder (b1) each comprise a mixture of at least two binders, and the mixing ratio of the binders in (a11), (a21), and (b1) is the same in each.” Support is found at least on p. 83, l. 25 to p. 84, l. 12.

Claim 56 recites a list of specific rheology control additives (c1) that can be present in rheology module (IV). Support is found at least on p. 80, l. 24 to p. 81, l. 10.

Amendments to, cancellation of, and additions to, the claims, as set forth above, are made in order to streamline prosecution in this case by limiting examination and argument to certain claimed embodiments that presently are considered to be of immediate commercial significance. Amendment or cancellation of the claims is not in any manner intended to, and should not be construed to, waive Applicants' right in the future to seek such unamended or cancelled subject matter, or similar matter (whether in equivalent, broader, or narrower form) in the present application, and any continuation, divisional, continuation-in-part, RCE, or any other application claiming priority to or through the present application, nor in any manner to indicate an intention, expressed or implied, to surrender any equivalent to the claims as pending after such amendments or cancellations.

Reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

1. **Rejection of claims 3, 18, 19, 21, 22, 25, 26, 28, and 42-53 under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement.**

The PTO contends,

Examiner has re-read the Specification, and it is unclear what elements therein correspond to the claimed percents by weight of the constituents (a21), (a22) and (a23) since the Specification does not utilize these parameters for polymer (A1) which differs in scope with polymer (All) [A2] to which reference is made at page 71 (line 5) to page 72 (line 18). It is clear, and applicant has argued, the two components are different. As such, the amendment is improper.

(Office Action of 6/4/09, paragraph spanning pp. 3 and 5)

Applicants appreciate the detailed basis of rejection, but must respectfully disagree. Support for the claimed percents by weight for components (a11), (a12), and (a13) A1 is found at least on p. 71, l. 5 to p. 72, l. 18, and support for the claimed percents by weight for components (a21), (a22), (a23), and (a24) of A2 is found at least on p. 75, l. 8 to p. 76, l. 10.

Since support is present for the percents by weight of all these components, reconsideration and removal of the 35 U.S.C. 112, first paragraph rejection is respectfully requested.

2. **Rejection of claims 3, 18, 19, 21, 22, 25, 26, 28, and 42-53 under 35 U.S.C. 103(a) as being obvious over Reusmann et al. (U.S. Patent No. 6,403,701), hereafter "Reusmann" taken in combination with Brock et al. (U.S. Patent No. 5,672,649), hereafter "Brock".**

Reusmann generally discloses a mixer system for preparing water-dilutable coating compositions with precisely defined tinting consisting of (A) a plurality of base colors A, which contain less than 5% by weight of water, at least one coloring and/or

special-effect pigment, organic solvent, at least one water-dispersible first binder, and optional additives, and (B) at least one aqueous, pigment-free component comprising an aqueous dispersion of a polyurethane (Abstract and col. 2, l. 61 to col. 3, l. 3).

The PTO concedes that

. . . Reusmann et al does not show the component (A2) as a separate module of an aqueous color module comprising pigment, binder and water. The reference does not show three modules as the mixing system.

(Office Action of 6/4/09, p. 7, first paragraph)

Brock generally discloses a process for preparing aqueous coatings with adjustable optical effects by mixing at least two storage stable pre-mixed aqueous modules which are (A) at least one aqueous special effect module containing one or more special effect pigments, one or more anionic and/or non-ionic stabilized water dilutable binders, one or more organic solvents, at least 20 wt.% of water, and optional additives, and (B) at least one aqueous binder module containing one or more anionic and/or non-ionic stabilized water-dilutable binders, water, and optionally one or more organic solvents, one or more cross-linking agents, and/or additives (Abstract).

The PTO contends that,

The reference to Brock et al teaches the production and use of an aqueous coating system using modules. The Abstract teaches the employment of an aqueous module that comprises the system noted in the instant claims as (A2) . . .

Likewise, the use of the modular system (A2) as taught by Brock et al, in the mixer system of Reusmann et al would have been an obvious step. The references are drawn to identical systems that employ some differing modules. Both systems are aqueous-based systems. As such, inclusion of the modules taught by Brock et al for the many modules disclosed by Reusmann et al would have been a prima facie obvious modification. Nothing unexpected has been shown on the record.

(Office Action of 6/4/09, p. 7, second paragraph and p. 8, first paragraph)

Applicants greatly appreciate the detailed basis of rejection but must respectfully disagree. The Supreme Court has recently reaffirmed the principle that “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the art”. *KSR Int’l. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). The Court further stated that “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does”. *Id.* And the Court expressly encouraged the use of common sense in such analysis. *Id.* Furthermore, while the KSR decision may have eliminated any rigid requirement for application of the teaching-suggestion-motivation test (TSM test), it did not disturb the longstanding principle that “a prior art reference must be considered in its entirety, i.e., as a *whole*, including portions that would lead away from the claimed invention.” *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).” MPEP 2141.02 VI.

Brock emphatically teaches away from water-free color modules, i.e. color modules having less than 5% by weight water corresponding to component (A1) of the instant claims, because they are not storage stable.

Brock makes reference to the disclosure of DE 41 10 520 A1 to Mayer, the English-language equivalent of which is U.S. Patent No. 6,448,326 B1, hereafter “Mayer”. Brock characterizes Mayer as teaching a water base lacquer consisting of base color modules

“(A), which contain less than 5 wt. % of water, preferably no water, and pigments, solvents, and water-dilutable binders. . . . The water-dilutable binder contained in component A are present in solvent form and must be capable of being prepared in solvent form. . . . The final coating agents are prepared by mixing the components just before application, *they are not storage stable.*”

(*Brock, col. 1, ll. 41-56, emphasis added*)

Component (A) referred to in the quote corresponds to component (A1) of the claims. Brock clearly teaches against the use of a component like (A1) in a coating system because of lack of storage stability.

Component (A) of Mayer is equivalent to component (A) of Reusmann. Moreover, Reusmann teaches that his invention is an improvement over Mayer. For example, Reusmann states that "...It has surprisingly been found that the condensation resistance of finished coatings produced from the mixer systems of the general type described in DE-1 41 10 520 [i.e. Mayer] can be increased considerably if . . ." (Reusmann, "Summary of Invention", col. 2, ll. 43-46). Therefore this teaching against Mayer is also a teaching against Reusmann – Brock teaches against the mixer system of Reusmann.

Not only does Brock teach against the water-free base color modules of Mayer and Reusmann, but Mayer teaches against the aqueous base color modules of Brock:

That is to say, the water-thinnable metallic basecoats used in production line finishing (automotive factory finishing) do not have a shelf life that is adequate for the refinishing sector, since these water-thinnable paints suffer problems of stability linked to gas evolution (hydrogen formation by the reaction of water with the aluminum bronze) and/or of special effect stability. Both problems impair permanently the color or brightness of the resultant coatings. For this reason these systems have not found use in refinishing.

However, not only water-thinnable paints containing special effect pigments have problems associated with shelf life. Colored pigments, too, can be attacked by prolonged action of water, for example in an alkaline medium. In order that the choice of commercially available pigments is not unduly constrained, a need also exists for the formulation of storage-stable base colorants using these colored pigments.

(Mayer, col. 2, ll. 18)

Thus, it is readily apparent from the art at the time the invention was made that aqueous base color modules, corresponding to module (A2) of the instant claims, were highly undesirable, and are not expected to be storage stable. The art thus teaches against the use of aqueous base color modules.

Since Brock teaches against a base color module comprising less than 5% by weight water and Mayer and Reusmann teach against an aqueous base color module, Applicants respectfully submit that the combination of these two modules is not obvious over the combination of Brock and Reusmann.

The PTO has essentially argued that the combination of aqueous base color module (A2) of Brock with the system of Reusmann was “obvious to try” because the references are analogous art and because they both teach aqueous coating systems. However a finding of “obvious to try” does not provide the proper showing for an obviousness determination. The requirement for a determination of obviousness is that “both the suggestion *and the expectation of success* must be founded in the prior art, not in applicant's disclosure” (emphasis added). *In re Dow Chem.*, 837 F.2d 469, 473, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988). The PTO, then, cannot base a determination of obviousness on what the skilled person in the art might try or find obvious to try. Rather, the proper test requires determining what the prior art would have led the skilled person to do.

Given the disclosure of Mayer, which is a reference cited in Reusmann, the skilled person would not expect to meet with success in the use of aqueous base color modules in aqueous coating systems because they are known to be unstable in storage. Reusmann, on the other hand, teaches that water-free base color modules are also unstable in storage. Given the conflicting teachings of the references, the skilled person could not rationally expect success at the time the invention was made in creating a storage-stable coating system from two modules that were each known to be unstable.

Another reason the process of the instant claims is not obvious is the unpredictability of the outcome of the process. In the field of coating technology, it is especially difficult to predict the storage stability of aqueous coating materials. The skilled person in the art knows that aqueous coating materials are generally dispersions of polymeric binders in water, and that these dispersions are highly prone to phase separation, settling, and/or coagulation. The problem is worse with heavily pigmented aqueous coatings, which are suspensions of the pigments in the coatings, because the

pigments tend to settle out over time as well. The coating materials must be optimized to minimize phase separation of the polymeric binder and settling of the pigments.

For example, Reusmann (col. 1, ll. 57-65) teaches that

For the transition from conventional (i.e. water-free) to water-thinnable systems, therefore, it is not sufficient simply to exchange the binders used from water-thinnable binders. . . . However the poor shelf life of the known water-thinnable basecoats has so far prevented the putting together of an above-described mixer system from water-thinnable basecoats of this kind.

In other words, for water-thinnable systems, simple, or obvious substitutions of components will not necessarily give storage stable systems. Confirming the difficulty in preparing stable water-thinnable coating systems, Brock comments that the water-based lacquers of Mayer, which are prepared from water-free base color modules,

have undesired high proportions of solvent. The final coating agents are prepared by mixing the components just before application, they are not storage-stable.”

(col. 1, ll. 52-56)

In view of the known difficulties in preparing storage stable water-thinnable coating systems of this type, the PTO has not established any precedent for the use of an essentially water-free base color module having less than 5% by weight water in combination with an aqueous base color module, and the mixing these two modules to form a storage stable coating material prior to the Applicants' own disclosure. Reusmann teaches only essentially water-free base color modules, and mixing them to form a coating material. Brock teaches only aqueous base color modules, and mixing them to form coating materials. Given the unpredictability of the field of water-thinnable coatings, there was no way of knowing whether the use of essentially water-free base color modules having less than 5% by weight water in combination with an aqueous base color module, and the mixing these two modules, could form a storage stable coating material until the Applicants' own disclosure.

Claims 22 and 42-53 have the additional limitation of “at least one pigment-free rheology module (IV)”. The PTO concedes that, “. . . the rheology module is not separate, but as an additive in other modules,” (Office Action of 6/4/09, paragraph spanning pp. 7 and 8). Therefore Reusmann is deficient in lacking two limitations of the claims, at least one aqueous color-imparting base color (A2) and at least one pigment-free rheology module.

The PTO contends however,

Further, note column 7 (lines 34-67). The reference [Brock] clearly shows the modules designated as (A2) and (IV), since at column 3 (lines 56-61) the reference teaches the use of “a rheology module.”

Both references [Brock and Reusmann] are drawn to aqueous coating mixer systems comprising modules. Since both are aqueous systems, the modules may be used from one in the other with a great expectation of success by the artisan having an ordinary skill in the art. Since the reference to Reusmann et al shows the modules for use, although the rheology module is not separate, but as an additive in other modules, as herein claimed, the use of a rheology module, as taught by Brock et al would have been a *prima facie* obvious step.

(Office Action of 6/4/09, p. 7, second par., and par. spanning pp. 7 and 8)

Applicants appreciate the detailed basis of rejection, but must respectfully disagree. The PTO has failed to establish any reason why the rheology control additive should be present as a separate module instead of combined with one of the other modules.

Although Brock discloses a separate rheology control module for a coatings system comprising aqueous base color modules only, there is no teaching or suggestion why the separation of rheology control additive into a separate module may be of any advantage in the system of the claims comprising both aqueous and non-aqueous (water-free) base color modules.

With respect to claims 42 and 53, there is no disclosure in any of the references that the rheology control agent is present at a concentration of 0.5 to 50% by weight or 1.5 to 25% by weight, and that the aqueous medium is present at a concentration of 50 to 99.5% by weight, or 75 to 98.5% by weight. Establishing a *prima facie* case of obviousness requires that all limitations of the claim be taught or suggested by the prior

art. See, e.g., *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003); *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974). Since all the limitations of these claims are not taught or suggested by the prior art, Applicants respectfully submit that they are not *prima facie* obvious.

With respect to new claim 56, none of the references, alone or in combination, teach or suggest any of the rheology control additives (c1) recited in this claim as a component of an independent rheology module (IV).

With respect to new claim 54, none of the references, alone or in combination, teach or suggest that the at least one binder (a11), the at least one water-soluble or water-dispersible binder (a21), and the at least one water-soluble or water-dispersible binder (b1) are the same.

Using the same binder in (a11), (a21), and (b1) provides unexpected advantageous results (Instant application, p. 83, ll. 13-23):

. . . - irrespective of the mixing ratio of the different base colors (A1) and (A2) and of the mixing varnish (B) and hence irrespective of shade and/or optical effect - the resultant mixtures of the different base colors (A1) and (A2) and of the mixing varnish (B) exhibit an approximately consistent evaporation behavior (drying) and also similar rheology. It also ensures that, when using different base colors (A1) and (A2) and mixing varnish (B), consistent film properties are obtained independently of the particular desired color shade.

With respect to new claim 55, none of the references, alone or in combination, teach or suggest that the at least one binder (a11), the at least one water-soluble or water-dispersible binder (a21), and the at least one water-soluble or water-dispersible binder (b1) each comprise a mixture of at least two binders, and the mixing ratio of the binders in (a11), (a21), and (b1) is the same in each.

Maintaining the same mixing ratio of binders in each of (a11), (a21), and (b1) when there are at least two binders in each also provides unexpected advantageous results (Instant application, p. 83, l. 25 to p. 84, l. 5):

. . . after mixing with the other constituents of the modular system of the invention, consistent mixing ratios between the binders are again achieved irrespective of the shade.

In other words, no matter what ratio the modules (I), (II), and (III) are mixed in order to achieve different color shades and/or effects, the binder composition of the final coating composition will always be the same. In this way, different mixtures of (I), (II), and (III) will all have the same drying rate, and consistent film properties are obtained.

In view of the foregoing remarks, it is respectfully submitted that a *prima facie* case of obviousness for claims 3, 18, 19, 21, 22, 25, 26, 28, and 42-53 over the cited combination of Reusmann and Brock has not been established. Therefore reconsideration and removal of the obviousness rejection is respectfully requested. For the same reasons, it is respectfully submitted that new claims 54-56 are also patentable.

CONCLUSION

Applicants respectfully submit that the Application and pending claims are patentable in view of the foregoing remarks. A Notice of Allowance is respectfully requested. As always, the Examiner is encouraged to contact the Undersigned by telephone if direct conversation would be helpful.

Respectfully Submitted,

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